

U. S. GEOLOGICAL SURVEY
ANNUAL PEAK FLOW FREQUENCY ANALYSIS
Following Bulletin 17-B Guidelines
Program peakfq
(Version 4.0, December, 2000)

Station - 05367500 RED CEDAR RIVER NEAR COLFAX, WI
2002 MAR 13 09:02:55

I N P U T D A T A S U M M A R Y

Number of peaks in record	=	67
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	67
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.337
Standard error of generalized skew	=	0.550
Skew option	=	WEIGHTED
Gage base discharge	=	3500.0
User supplied high outlier threshold	=	--
User supplied low outlier criterion	=	--
Plotting position parameter	=	0.00

***** NOTICE -- Preliminary machine computations. *****
***** User responsible for assessment and interpretation. *****

WCF133I-SYSTEMATIC PEAKS BELOW GAGE BASE WERE NOTED. 13 3500.0
WCF162I-SYSTEMATIC PEAKS EXCEEDED HIGH-OUTLIER CRITERION. 1 21967.4
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION. 2091.1

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ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE	LOGARITHMIC			
	EXCEEDANCE DISCHARGE	MEAN	STANDARD DEVIATION	SKEW	
SYSTEMATIC RECORD	3500.0	0.8060	3.7765	0.2019	0.708
BULL.17B ESTIMATE	3500.0	0.8060	3.7765	0.2019	0.400

ANNUAL FREQUENCY CURVE -- DISCHARGES AT SELECTED EXCEEDANCE PROBABILITIES

ANNUAL EXCEEDANCE PROBABILITY	BULL.17B ESTIMATE	SYSTEMATIC RECORD	'EXPECTED PROBABILITY'	95-PCT CONFIDENCE LIMITS FOR BULL. 17B ESTIMATES	
			ESTIMATE	LOWER	UPPER
0.8000	4017.0	4013.0	4002.0	3566.0	4451.0
0.5000	5796.0	5661.0	5796.0	5270.0	6366.0
0.2000	8737.0	8627.0	8790.0	7893.0	9826.0
0.1000	11020.0	11110.0	11170.0	9805.0	12720.0
0.0400	14330.0	14930.0	14680.0	12450.0	17100.0
0.0200	17100.0	18330.0	17710.0	14600.0	20940.0
0.0100	20160.0	22270.0	21140.0	16910.0	25290.0
0.0050	23540.0	26830.0	25050.0	19410.0	30240.0
0.0020	28570.0	34000.0	31070.0	23050.0	37810.0
0.6667	4781.8	(1.50-year flood)			
0.4292	6285.9	(2.33-year flood)			

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I N P U T D A T A L I S T I N G

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1914	4590.0		1948	6400.0	
1915	3250.0		1949	5100.0	
1916	7520.0		1950	8940.0	
1917	4450.0		1951	6970.0	
1918	3380.0		1952	7900.0	
1919	4590.0		1953	8580.0	
1920	7700.0		1954	10300.0	
1921	2420.0		1955	1990.0	
1922	5010.0		1956	7740.0	
1923	4730.0		1957	2520.0	
1924	3510.0		1958	2470.0	
1925	3380.0		1959	5220.0	
1926	5970.0		1960	8030.0	
1927	6100.0		1961	6040.0	
1928	4550.0		1962	3300.0	
1929	5150.0		1963	5000.0	
1930	4120.0		1964	2650.0	
1931	1040.0		1965	16200.0	
1932	4170.0		1966	9400.0	
1933	4700.0		1967	22800.0	
1934	21900.0		1968	8600.0	
1935	5000.0		1969	4600.0	
1936	9780.0		1970	5700.0	
1937	1500.0		1971	4500.0	
1938	14700.0		1972	7000.0	
1939	7760.0		1973	8800.0	
1940	4110.0		1974	5000.0	
1941	4110.0		1975	8600.0	
1942	9130.0		1976	6800.0	
1943	10900.0		1978	4000.0	
1944	6400.0		1979	3500.0	L
1945	10500.0		1980	9600.0	
1946	5850.0		1990	8870.0	
1947	3470.0				

Explanation of peak discharge qualification codes

PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1967	22800.0	0.0147	0.0147
1934	21900.0	0.0294	0.0294
1965	16200.0	0.0441	0.0441
1938	14700.0	0.0588	0.0588
1943	10900.0	0.0735	0.0735
1945	10500.0	0.0882	0.0882
1954	10300.0	0.1029	0.1029
1936	9780.0	0.1176	0.1176
1980	9600.0	0.1324	0.1324
1966	9400.0	0.1471	0.1471
1942	9130.0	0.1618	0.1618
1950	8940.0	0.1765	0.1765
1990	8870.0	0.1912	0.1912
1973	8800.0	0.2059	0.2059
1968	8600.0	0.2206	0.2206
1975	8600.0	0.2353	0.2353
1953	8580.0	0.2500	0.2500
1960	8030.0	0.2647	0.2647
1952	7900.0	0.2794	0.2794
1939	7760.0	0.2941	0.2941
1956	7740.0	0.3088	0.3088
1920	7700.0	0.3235	0.3235
1916	7520.0	0.3382	0.3382
1972	7000.0	0.3529	0.3529
1951	6970.0	0.3676	0.3676
1976	6800.0	0.3824	0.3824
1944	6400.0	0.3971	0.3971
1948	6400.0	0.4118	0.4118
1927	6100.0	0.4265	0.4265
1961	6040.0	0.4412	0.4412
1926	5970.0	0.4559	0.4559
1946	5850.0	0.4706	0.4706
1970	5700.0	0.4853	0.4853
1959	5220.0	0.5000	0.5000
1929	5150.0	0.5147	0.5147
1949	5100.0	0.5294	0.5294
1922	5010.0	0.5441	0.5441
1935	5000.0	0.5588	0.5588
1963	5000.0	0.5735	0.5735
1974	5000.0	0.5882	0.5882
1923	4730.0	0.6029	0.6029
1933	4700.0	0.6176	0.6176
1969	4600.0	0.6324	0.6324
1914	4590.0	0.6471	0.6471
1919	4590.0	0.6618	0.6618
1928	4550.0	0.6765	0.6765
1971	4500.0	0.6912	0.6912
1917	4450.0	0.7059	0.7059

1932	4170.0	0.7206	0.7206
1930	4120.0	0.7353	0.7353
1940	4110.0	0.7500	0.7500
1941	4110.0	0.7647	0.7647
1978	4000.0	0.7794	0.7794
1924	3510.0	0.7941	0.7941
1979	3500.0	--	--
1947	3470.0	--	--
1918	3380.0	--	--
1925	3380.0	--	--
1962	3300.0	--	--
1915	3250.0	--	--
1964	2650.0	--	--
1957	2520.0	--	--
1958	2470.0	--	--
1921	2420.0	--	--
1955	1990.0	--	--
1937	1500.0	--	--
1931	1040.0	--	--

ANNUAL PEAK DISCHARGE
CUBIC FEET PER SECOND

